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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,113	03/31/2000	Wolfgang Renz		2414

7590 03/11/2003

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FETZNER, TIFFANY A

ART UNIT	PAPER NUMBER
2862	

DATE MAILED: 03/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/540,113	Applicant(s) RENZ ET AL.
	Examiner Tiffany A Fetzner	Art Unit 2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *02 December 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED Non-Final ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2 The objection to the disclosure from the November 7th 2001 office action is rescinded in view of applicant's arguments in the February 28th 2002 response; which successfully overcomes the objection without adding new matter.

Claim Rejections - 35 USC § 102, 103

3 The rejection of **Claims 1-13** rejected under **35 U.S.C. 102(b)** as being anticipated by **McArthur** US patent 2,735,074 issued Feb. 14th 1956; from the November 7th 2001 office action are **rescinded** in view of applicant's arguments in the February 28th 2002 response.

4 The rejection of **Claims 1-13** under **35 U.S.C. 103(a)** as being unpatentable over **McArthur** US patent 2,735,074 issued Feb. 14th 1956; from the November 7th 2001 office action are **rescinded** in view of applicant's arguments in the February 28th 2002 response.

5 The rejection of **Claims 1-13** are rejected under **35 U.S.C. 103(a)** as being unpatentable over **Oppelt et al.**, US patent 5,153,517 issued Oct. 6th 1992, in view of the established case law that Duplicating parts for a Multiplied Effect, is not a patentably

distinguishing feature. St. Regis Paper Co. V. Bemis Co. Inc., 193 USPQ 8, 11 (7th cir. 1977); or alternatively in view of Figure 6 from **McArthur** US patent 2,735,074 issued Feb. 14th 1956; from the November 7th 2001 office action are rescinded in view of applicant's arguments in the February 28th 2002 response. [See page 8 paragraph 3 through page 11 paragraph 1 of the February 28th 2002 response.]

Response to Arguments

6, Applicant's arguments filed December 2nd 2003 in applicant's appeal brief have been fully considered but they are not persuasive. They argue the examiner's definition or radial, therefore the examiner has provided a clarification of the definition of the word radial as applied by the examiner, with a citation mentioned in the prior art of record. The 102 rejections are still proper because the art shown illustrates the definition of the word radial, and all the features of the claims are found within a single reference.

7. In view of the Re-Submission of Appellants' main brief on Appeal filed on December 2nd 2002, PROSECUTION IS HEREBY REOPENED. The finality of the previous office action is withdrawn and new grounds of rejection, are provided as set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 102

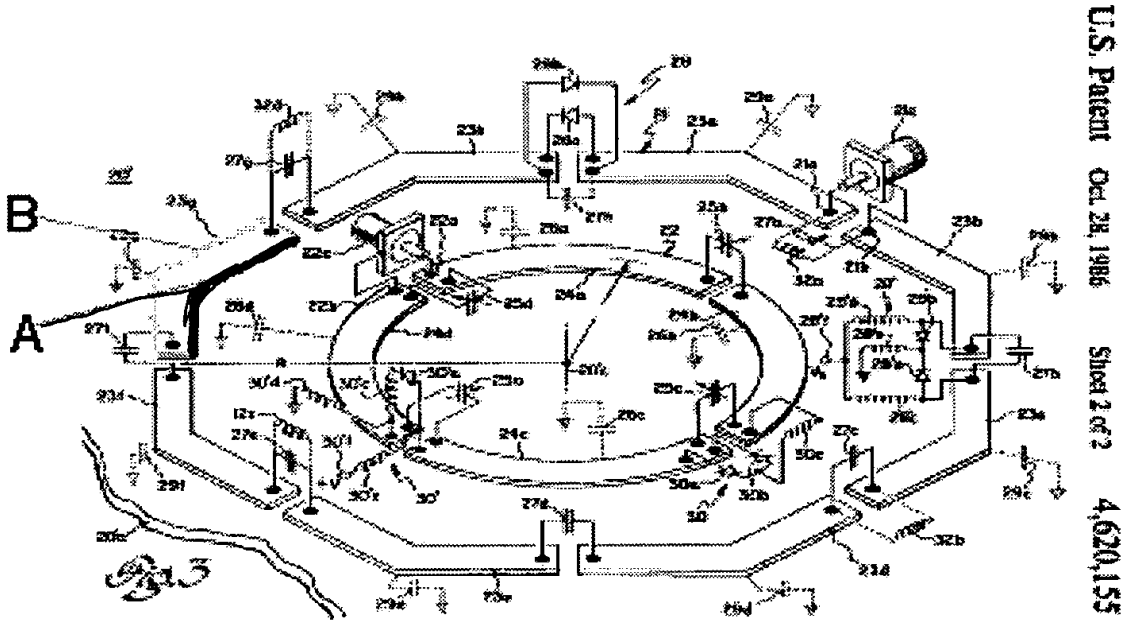
8 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9 Amended **Claims 1-3, 8-13** are rejected under **35 U.S.C. 102(b)** as being anticipated by **Edelstein** US patent 4,620,155 issued October 28th 1986.

10 With respect to **Claim 1, Edelstein** teaches an NMR Antenna subsystem that has a plurality of co-planar surface coils, each comprised of a plurality of segments and elements. [See abstract, Figure 3 which is interpreted broadly as a multi element NMR antenna, because an NMR application is suggested in the abstract, and col. 3 lines 3-36] **Edelstein** suggests and shows "a plurality of antenna elements" (i.e. segmental elements 23a-h) , [See Figure 3] "each antenna having an element beginning" (i.e. the inner surface of component 23-g; which has been indicated by examiner notation as component **A** in the figure below;) "and an element end" (i.e. the outer surface of component 23-g; which has been indicated by examiner notation as component **B** in the figure below;) [See Figure 3]; "said antenna elements being disposed radially relative to a center axis" (i.e. the definition of radial being used by the examiner is definition number 4 of [1]radial on page 962 of Merriam Webster's Collegiate Dictionary

Tenth Edition 1997 "developing uniformly around a central axis", and the components of **Edelstein** meet this conventional well-known definition of radial. The **Edelstein** reference shows that the antenna elements are arranged "radially relative to a center axis so as to proceed outwardly from the respective element beginnings (i.e. inner surface A) "to the respective element ends"; (i.e. outer surface B) [See Figure 3] "and exhibit cyclical symmetry from antenna element to antenna element;" [See Figure 3] The examiner notes that each of the "said antenna elements" (i.e. the segmented elements 23a-h) have an inner surface A and an outer surface B "being at least magnetically coupled with each other;" [See Figure 3, col. 2 lines 18-51] "and said plurality being at least five" [See Figure 3 which shows at least 8 segmented antenna elements].



11 The examiner notes that using the definition for radial as "developing uniformly around a central axis" the, **Ed Istein** reference meets the requirements of claim 1,

because components 23a through 23h are developed uniformly around a central axis represented by point 20'c in Figure 3.

12 With respect to **Claim 2**, **Edelstein** shows and suggests that "the respective element beginnings (i.e. surface A in Figure 3) "and the respective element ends" (i.e. surface B in Figure 3) are also connected to ground". [See Figure 3 components 29a through 29h] The same reasons for rejection, that apply to **claim 1** also apply to **claim 2**.

13 With respect to **Claim 3, Edelstein** shows, teaches and suggests that "said antenna elements are electrically coupled to each other." [See Figure 3, components 23a through 27h; col. 4 lines 13-29; and the entire reference in general.] The same reasons for rejection, that apply to **claim 1** also apply to **claim 3.**

14 With respect to **Claim 8, Edelstein** shows, and suggests from the diagram of Figure 3, that "the respective element beginnings define an element beginning plane and wherein the respective element ends defines an element end plane, and wherein said element beginning plane and said element end plane are parallel to and spaced from each other." [See Figure 3] The same reasons for rejection, that apply to **claim 1** also apply to **claim 8**.

15 With respect to **Claim 9**, **Edelstein** shows, and suggests from the diagram of Figure 3, that "the respective antenna elements are linear." [See Figure 3] The same reasons for rejection, that apply to **claims 1, 8** also apply to **claim 9**.

16 With respect to **Claim 10, Edelstein** shows, and suggests from the diagram of Figure 3, that "the respective antenna elements define respective line directions, said

line directions intersecting said center axis at a common point", [See Figure 3 center point 20'c which is the center of angulated ring 23 and inner ring 24. Additionally, Figure 3 suggests that all the segmented components have the same central axis point.] The same reasons for rejection, that apply to **claims 1, 8,** also apply to **claim 10**.

17 With respect to **Claim 11, Edelstein** teaches, shows, and suggests from the diagram of Figure 3 "a grounding plate disposed parallel to said element beginning plane and said element end plane, and said common point being disposed in said grounding plate." [See Figure 3]. The same reasons for rejection, that apply to **claims 1, 8, 10** also apply to **claim 11**.

18 With respect to **Claim 12, Edelstein** teaches, shows, and suggests, from the diagram of Figure 3, a "grounding plate disposed parallel to said element beginning plane and said element end plane." [See Figure 3] The same reasons for rejection, that apply to **claims 1, 8,** also apply to **claim 12**.

19 With respect to **Claim 13**, **Edelstein** shows, and suggests, from the diagram of Figure 3 that the plurality of angulated antenna segments is 8, and a plurality of 8 angulated segments is inherently "divisible by 4". Therefore, **Edelstein** teaches, shows, and suggests, that the plurality of antenna segments "is divisible by 4". The same reasons for rejection, that apply to **claim 1**, also apply to **claim 13**.

20 **Amended Claims 1, 3-10** and **13** are rejected under **35 U.S.C. 102(b)** as being anticipated by **Mansfield** US patent 5,143,688 issued September 1st 1992.

21 With respect to **Claim 1, Mansfield** teaches an NMR Antenna subsystem that has a plurality of co-planar surface coils, each comprised of a plurality of segments and

elements. [See Figures 4, 6a, 6b, 8a, 8b, 9, 10 abstract, which is interpreted broadly as a multi element NMR antenna, because an NMR application is suggested in the abstract, and the examiner considers the structure of the noted figures to comprise a transmission / reception surface coil antenna structure. See also col. 1 line 51 through col. 2 line 45; col. 7 lines 34-64] **Mansfield** suggests and shows "a plurality of antenna elements" [See Figures 4, 6a, 6b, 8a, 8b, 9, 10] "each antenna having an element beginning and an element end;" [See Figures 4, 6a, 6b, 8a, 8b, 9, 10]. **Mansfield** shows that "said antenna elements being disposed radially relative to a center axis" [See Figures 4, 6a, 6b, 8a, 8b, 9, 10]. The examiner notes that the definition of radial being used by the examiner is definition number 4 of [1]radial on page 962 of Merriam Webster's Collegiate Dictionary Tenth Edition 1997 "developing uniformly around a central axis" and the components of **Mansfield** meet this conventional well-known definition of radial. The **Mansfield** reference shows that the antenna elements are arranged "radially relative to a center axis so as to proceed outwardly from the respective element beginnings to the respective element ends [See Figures 4, 6a, 6b, 8a, 8b, 9, 10] "and exhibiting cyclical symmetry from antenna element to antenna element;" [See Figures 4, 7, 9, 10, 11, 12] The examiner notes that in the figures shown by the **Mansfield** reference each of the "said antenna elements" is "at least magnetically coupled with each other;" [See col. 4 lines 30-55; col. 8 lines 38 through col. 9 line 67; Figures 4, 6a, 6b, 8a, 8b, 9, 10,] "and said plurality being at least five" [See Figures 4, 7, 9, 10 which shows at least 8 segmented antenna elements].

22 The examiner notes that using the definition for radial as "developing uniformly around a central axis" the, **Mansfield** reference meets the requirements of **claim 1**, because the loop antenna components shown in the figures are developed uniformly around a central axis represented by point p in Figures 1, and 3; and point c in figure 7.

23 With respect **to Claim 3, Mansfield** shows, teaches and suggests that "said antenna elements are electrically coupled to each other." [See abstract, Figures 4, 6a, 6b, 8a, 8b, 9, 10, 13, 14, and the entire reference in general.] The same reasons for rejection, that apply to **claim 1** also apply to **claim 3**.

24 With respect to **Claim 4**, **Mansfield** shows, and suggests from the diagram of Figures 6a, 8a, 9, 10 that "the respective element beginnings are electrically connected to each other via a ring-shaped connecting element." [See Figures 6a, 8a, 9, 10 which, connect the loop antenna elements col. 7 lines 34-64.] The same reasons for rejection, that apply to **claims 1, 3** also apply to **claim 4**.

25 With respect to **Claim 5, Mansfield** teaches, shows, and suggests from the diagram of Figures 6a, 8a, 9, 10 that "the respective element ends are electrically connected to each other via a ring-shaped connecting element." [See Figures 6a, 8a, 9, 10 which, connect the loop antenna elements col. 7 lines 34-64.] The same reasons for rejection, that apply to **claims 1, 3** also apply to **claim 5.**

26 With respect to **Claim 6**, **Mansfield** also teaches, shows, and suggests from the diagram of Figure 10, that "the respective element beginnings are electrically connected to each other via a first ring-shaped connecting element and wherein the respective element ends are electrically connected to each other via a second ring shaped connecting element. [See Figure 10 col. 7 lines 34-64 and the rejection reasons given in

the rejection of claim 5] The same reasons for rejection, that apply to **claims 1, 3, 5** also apply to **claim 6**.

27 With respect to **Claim 7, Mansfield** shows, and suggests from the diagram of Figures 4, 6a, 8a, 9, 10, that "each of said antenna elements has two branching element ends." [See Figures 4, 6a, 8a, 9, 10] The same reasons for rejection, that apply to **claim 1** also apply to **claim 7.**

28 With respect to **Claim 8, Mansfield** shows, and suggests from the diagram of Figures 13, 14 and 10 that "the respective element beginnings define an element beginning plane and wherein the respective element ends defines an element end plane, and wherein said element beginning plane and said element end plane are parallel to and spaced from each other." [See Figures 13, 14, 10] The same reasons for rejection, that apply to **claim 1** also apply to **claim 8**.

29 With respect to **Claim 9**, **Mansfield** shows, and suggests from the diagram of Figures 9, 10, 13, 14, 4 that "the respective antenna elements are linear." [See Figures 9, 10, 13, 14, 4] The same reasons for rejection, that apply to **claims 1, 8** also apply to **claim 9**.

30 With respect to **Claim 10, Mansfield** shows, and suggests from Figures 1, 3, 7, that "the respective antenna elements define respective line directions, said line directions intersecting said center axis at a common point", [See Figures 1, 3, 7 which suggest by illustration that all the antenna loop components have the same central axis point.] The same reasons for rejection, that apply to **claims 1, 8**, also apply to **claim 10**.

31 With respect to **Claim 13**, **Mansfield** shows, and suggests, from the diagrams of Figures 9, 10, 4, 11, 12 that the plurality of angulated antenna segments is 8, or 12 and both pluralities are inherently "divisible by 4". Therefore, **Mansfield** teaches, shows, and suggests, that the plurality of antenna segments "is divisible by 4". The same reasons for rejection, that apply to **claim 1**, also apply to **claim 13**.

32 Prior Art of Record

33 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A) **McArthur** US patent 2,735,074 issued Feb. 14th 1956;

B) **Oppelt et al.,** US patent 5,153,517 issued Oct. 6th 1992;

C) **Hashoian et al.,** US patent 5,168,230 issued December 1st 1992. [See Figures 1, 2, 4 and the entire disclosure in general, since this reference is similar to, and cites the prior art Edelstein reference, the examiner suggests applicant review this reference in preparation for any future response.]

D) **Prammer et al.,** US patent 6,268,726 issued July 31st 2001, filed January 15th 1999. [See Figures 4, 22a, 22b, 25, 26].

E) **R.L. Barrish et al.**, US patent 2,281,404 issued April 28th 1942.

F) **Pissanetzky et al.,** US patent 5,659,281 issued August 19th 1997. [See Figures 3a, 3b].

G) **Slade** US patent 6,215,304 B1 issued April 10th 2001, filed January 19th 1999 with a priority date of January 21st 1998. [See Figure 3]

H) **Definition numb r 4** of [1]**radial** on page 962 of **Merriam Webst r's Collegiate Dictionary Tenth Edition 1997** ="**developing uniformly around a central axis".**

Conclusion

33 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tiffany Fetzner whose telephone number is (703) 305-0430. The examiner can normally be reached on Monday-Thursday from 7:00am to 4:30pm., and on alternate Friday's from 7:00am to 3:30pm.

34 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on (703) 305-4816. The fax phone number for the organization where this application or proceeding is assigned is (703)305-3432 .

35 Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0956.

TAF
03/05/2003

EDWARD LEFKOWITZ
SUPERVISORY PATENT EXAMINER